Information Systems Plan – Table of Contents

I. Overall System Strategy

1. Information Systems (IS) Customers:

a. General. This IS Plan describes our quality initiatives and how they link to the TACOM ARDEC workforce, our customers, and to our overall Strategic Plan. It includes Strategies, Goals, Objectives, Metrics and Action Plans for IS management. The IS Process Model is depicted in Figure 1 and developed further in Figure 2. The emphasis of Figure 1 is that we have turned the pyramid upside down to empower our teams to accomplish the IS mission. Figure 2 depicts how the process works between the major entities: Teams, Team Coordinator Leaders, the Information Business Council, the Information Users Council, and the Board of Directors.

INFO SYSTEM QUALITY IMPROVEMENT
STRUCTURE

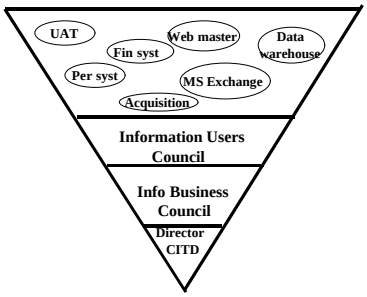

Figure 1. Info Systems Process Model

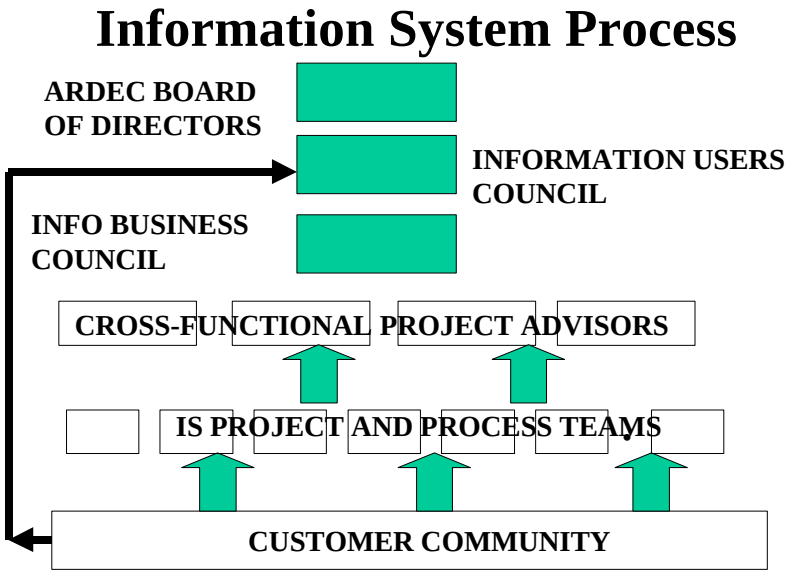

Figure 2. Information Systems Process

The Picatinny customer community works directly with IS project and process teams to identify requirements. The Team Coordinator Leaders (TLCs) assess their ability to meet these needs and, when necessary, meet with other TLCs. Specific responsibilities and guidelines for Team Coordinators/Leaders can be found in Appendix A.

When resource shortfalls arise a Project Advisor assigned to a team determines if priorities can be set to resolve the conflict. Appendix B describes specific guidelines for Project Advisors.

If the Project Advisor determines he/she cannot set priorities to resolve the conflict the matter is brought to the Information Business Council (IBC). This body is made up of the project advisors and non-supervisory employees along with the IS Director who chairs the Council. This group has developed strategic goals (i.e., key business drivers) based upon TACOM-ARDEC drivers. They manage the IS process by tracking a set of metrics developed to accomplish the strategic goals. The Charter for the IBC
can be found in Appendix C.

When a customer requirement or IBC strategic goal impacts a large cross-section of the customer community the IBC requests guidance from the Information Users Council (IUC) (i.e., the Quality Management Board). Specific guidelines for the IUC can be found in Appendix D. The IUC is periodically briefed on IS progress towards the business drivers. When issues cannot be resolved guidance is requested from TACOM-ARDEC's Board of Directors (BOD).

b. TACOM-ARDEC Business Areas:

Our business areas represent an irreducible list of areas in which TACOM-ARDEC must maintain technical competence in order to fulfill its current set of assigned missions. Figure 3. is a current list of the business areas. Each of them benefit generally from IT initiatives in the areas of Data Warehousing, WEB Application Development, Electronic Mail and WEB Forms, Networking, Electronic Acquisition & Commerce, Office Automation, and Workflow.

TACOM-ARDEC Business Areas

- Mine and Demolitions
- Smart Munitions
- Direct Fire
- Indirect Fire
- Fire Control
- Gun Propulsion
- Fuzing and Lethal Mechanisms
- Insensitive Munitions
- Soldier Weapons
- Pollution Prevention R&D

Figure 3.

c. Overall Information Systems Strategies:

Our strategic focus is centered on five principals: WEB-accessible applications; "Big pipes"; Combined AMC negotiating power; "Run'em where you got'em", and Develop "top-notch" talent.

(1) WEB-accessible applications means using very "thin" clients on IS user desktops the best client being only a WEB browser. Avoid the standard suboptimal infrastructures like building applications that require every server in a Novell network to run the application and a "thick" client on user's desktops. The latter scenario creates a high implementation and maintenance bill. Instead build applications that a user can access through his/her WEB browser. Current examples include: Financial systems - Direct Labor; EOR Summary; SORECAP. Personnel Systems – EEO Report; IDEAS;Performance Appraisal Status; MVFS. Miscellaneous Systems – Survey applications; Travel Tracker; ADP Repair Request; SMR Charts.

(2) "Big pipes" means providing the bandwidth that affords interconnectivity on the

network side, as well as interoperability and interworkability on the application side. In addition, it means providing information assurance conscientiously but not indiscriminately – not security at the expense of access.

(3) Combined AMC negotiating power means to leverage "quantity-potential" buying power. It also includes the constraint that the benefit needs to be continuous throughout the year when money becomes available – not just at a particular time during the year – not (necessarily) synchronized purchases.

(4) "Run'em where you got'em" means fat, thick, or thin clients will be ubiquitous; while their servers are managed where the expertise is located – not centered at some mega-center.

(5) Develop "top-notch" talent means we build people as well as systems – it takes high Level talent and corporate knowledge to implement the strategy.

d. Links to Other TACOM-ARDEC Activities: The issue is to coordinate and facilitate certain non-CITD IS developments and implement them within prescribed timeframes. Operational responsibilities lie with CPAC, CPOC, DBO, QED, FSAC, and ILSC with CITD serving as the sponsor. Specific actions are identified as follows:

(1) CPAC: Develop ability to review CPO surveys using drill down by organization, grade, etc. ***Success Indicators:*** Usefulness to Commanders and Directors of CPO survey data to improve employee perceptions.

(2) CPOC: Develop SF52 and TRAIN system. ***Success Indicators:*** Ability to easily create SF52s and to request/record training.

(3) QED: Develop JEDMICS system for automated retrieval and delivery of technical data packages. ***Success Indicators:*** Availability of TDPs upon demand.

(4) FSAC: Develop Computer Integrated Engineering systems. ***Success Indicators:*** Facilitization of making and delivering engineering change proposals.

(5) DBO: Develop Business Unit Manager (BUM) "Scorecard" system. ***Success Indicators:*** Improvement of BUMs' fiscal responsibility and customer focus.

(6) DBO: Build Quality Link Electronic Access with assistance from CITD. ***Success Indicators:*** Easy access to TQM issues & updates via the WEB.

(7) DBO: ILSC-ATAAPS time and attendance system. ***Success Indicators:*** Smooth transition from RETAP to ATAAPS.

(8) ASCO: Get customer survey results on WEB. ***Success Indicators:*** Easy access to customer surveys to improve customer service.

II. Metrics Summary

a. TACOM-ARDEC Goals:

1. Be a “Center of Excellence” in armaments to provide customers “best value” products and services.
2. Be an organization that is capable of quickly meeting unique and changing customer needs.
3. Strengthen our customer base within core-related business areas.
4. Continuously improve efficient use of resources.
5. Foster teamwork and employee involvement.
6. Foster mutually beneficial relationships with our surrounding communities.
7. Develop products that pose no incidental or accidental risk to public health, safety and the environment.

b. Information Systems Major Goals:

1. Major Technical Goals

(a) Transition applications to the web.
(b) Maintain an infrastructure able to satisfy group demands.
(c) Enable users to interwork, while avoiding future dead ends.
(d) Model corporate information around business needs.
(e) Protect personnel and mission-critical data.
(f) Facilitate the implementation of Electronic Data Interchange.

2. Major Business Goals

(g) Minimize the cost of doing TACOM-ARDEC’s business.
(h) Deliver high quality products and services.
(i) Empower our workforce to contribute to our goal.
(j) Train our workforce as needed to achieve our goal.
(k) Change goals as technologies and customer’s needs require.

c. Information Systems Goals Linked to TACOM-ARDEC Goals:

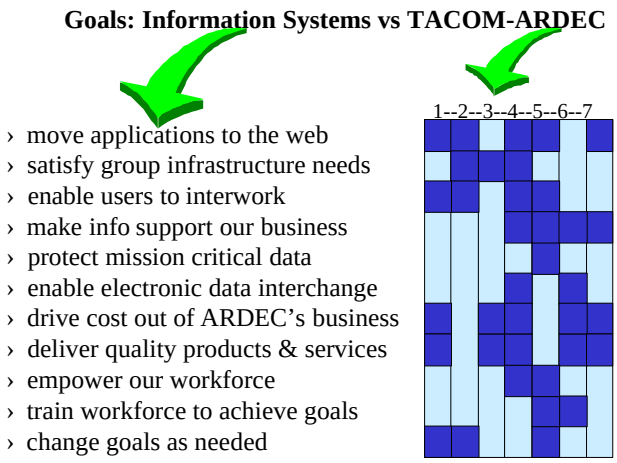

Figure 4. Goals: Information Systems vs TACOM-ARDEC

III. System Strategies and Metrics to Support TACOM-ARDEC Goals

A. SYSTEM STRATEGIES TO SUPPORT TACOM-ARDEC GOALS.

1. **TACOM-ARDEC Goal: Be a "Center of Excellence" in armaments to provide customers "best value" products and services.**

- **Overall Strategy:** Provide easy access to applications needed for ARDEC's business at the lowest possible cost.
  - **Metric Goals:**
    - **Technical Goals:** Move applications to the web; Enable users to interwork. (See below)
    - **Business Goals:** Minimize the cost of doing TACOM-ARDEC's business; Deliver quality products and services; Change goals as needed. (See below)

2. **TACOM-ARDEC Goal: Be an organization that is capable of quickly meeting unique and changing customer needs.**

- **Overall Strategy:** Provide rapid communications & networking services access anytime, anywhere. Allow ARDEC users access to applications while at home or on travel at minimal cost.
  - **Metric Goals:**
    - **Technical Goals:** Move applications to the web; Satisfy group infrastructure needs; Enable users to interwork. (See below)
    - **Business Goals:** Change goals as needed. (See below)

3. **TACOM-ARDEC Goal: Expand our customer base.**

- **Overall Strategy:** Produce quality information products and services that contribute to ARDEC's overall customer satisfaction.
  - **Metric Goals:**
    - **Technical Goals:** Satisfy group infrastructure needs. (See below)
    - **Business Goals:** Minimize the cost of doing TACOM-ARDEC's business; Deliver quality products and services. (See below)

4. **TACOM-ARDEC Goal: Continuously improve efficient use of resources.**

- **Overall Strategy:** Get CITD the smallest it can be by streamlining application deployment. Emphasize web-enabled applications.
  - **Metric Goals:**
    - **Technical Goals:** Move applications to the Web; Satisfy group infrastructure needs; Enable users to interwork; Make info support our business; Enable electronic data interchange. (See below)

- **Business Goals:** Minimize the cost of doing TACOM-ARDEC's business; Deliver quality products and services; Empower our workforce. (See below)

5. TACOM-ARDEC Goal: Foster teamwork and employee involvement.

- **Overall Strategy:** Be an example to ARDEC of teaming while managing using MANTLE. Allow ARDEC teams to communicate with each other well and collaborate electronically.
  - **Metric Goals:**
    - **Technical Goals:** Move applications to the Web; Enable users to interwork; Make info support our business; Protect mission critical data. (See below)
    - **Business Goals:** Empower our workforce; Train workforce to achieve goals; Change goals as needed. (See below)

6. TACOM-ARDEC Goal: Foster mutually beneficial relationships with our surrounding communities.

- **Overall Strategy:** Facilitate communications with the community by keeping up with the state-of-the-art in information management products and services. Develop an electronic means for facilitating doing business with industry.
  - **Metric Goals:**
    - **Technical Goals:** Make info support our business; Enable electronic data interchange. (See below)
    - **Business Goals:** Minimize the cost of doing TACOM-ARDEC's business; Deliver quality products and services; Train workforce to achieve goals. (See below)

7. TACOM-ARDEC Goal: Develop products that pose no incidental or accidental risk to public health, safety or to the environment.

- **Overall Strategy:** Cooperate in safety and environmental initiatives. Support the business centers and ARDEC's Safety & Environmental groups with quality products and services that are easily deployed.
  - **Metric Goals:**
    - **Technical Goals:** Move applications to the Web; Make info support our business. (See below)
    - **Business Goals:** Minimize the cost of doing TACOM-ARDEC's business; Deliver quality products and services. (See below)

B. DETAILED METRIC GOALS.

1. CATEGORY: TECHNICAL GOALS

(A) Move Applications to the Web.

- ❖ **Sub-Strategy:** Set clear Data Warehouse (DW) goals by getting requirements from Business Unit Managers (BUMs), Commanders/Directors, Mission System Owners, and the Command Group.

- ■ **Metric Goal 1. (A)(1):** Re-evaluate and identify DW data/applications needed to assist decision-makers manage by facts/metrics day-to-day; month-to-month; quarter-to-quarter.

- ■ **Rationale for Metric:**

  - ♦ **Usefulness:** These metrics help us see progress toward transitioning applications to the Web from the DW. They also show progress toward positioning us for achieving enhancement of our data warehousing to support decision-makers.

  - ♦ **Expected Result:** Reduction of extracts from systems other than this set of DW applications to support business decision-making. Transition of UNIX-based applications to the Web.

  - ♦ **Metric Target:** 2Q/FY99

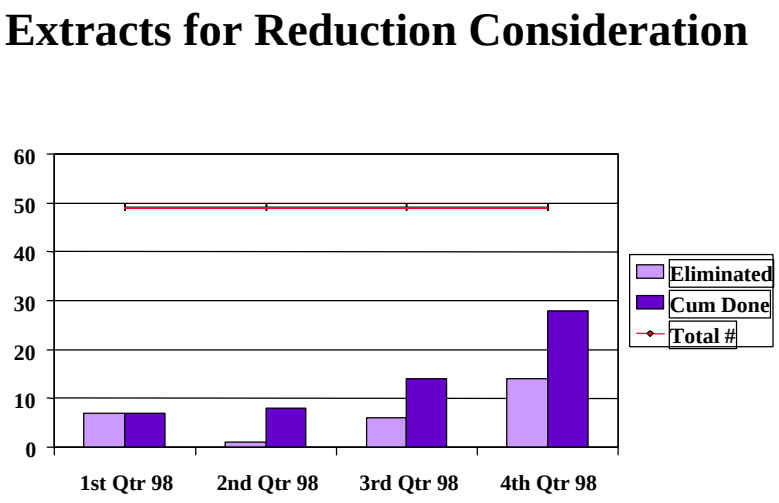

Figure 5. Actual & Projected Extract Reduction

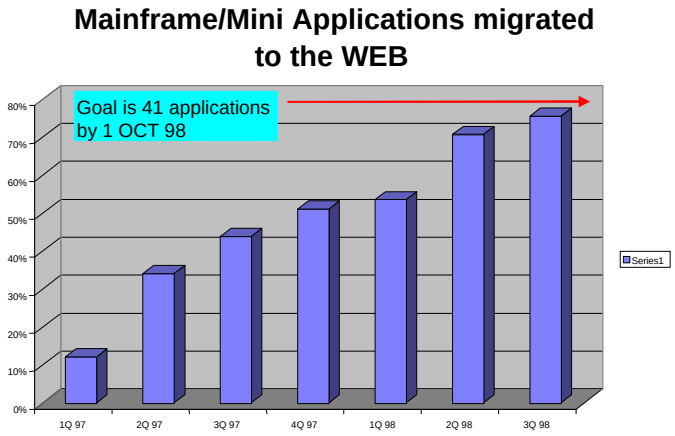

Figure 6. Transition of Applications To The Web

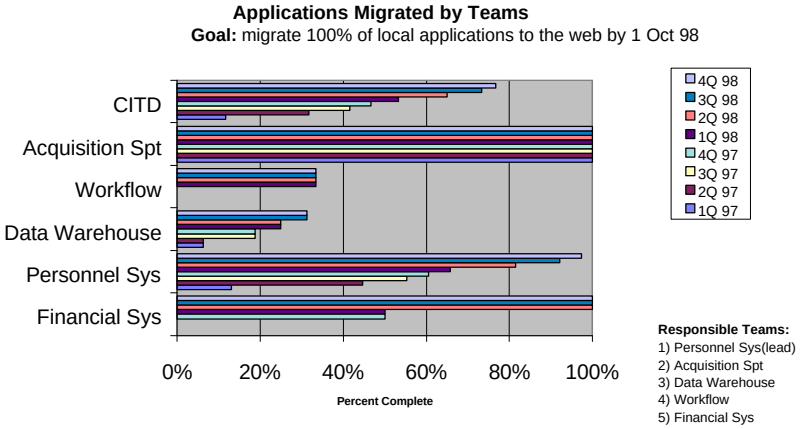

Figure 7. Applications Migrated By CITD Team

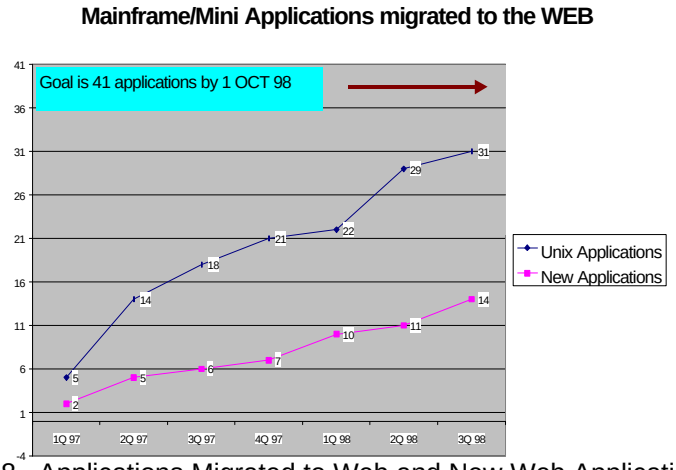

Figure 8. Applications Migrated to Web and New Web Applications

- **Metric Goal 1. (A)(2):** Develop/integrate a hierarchy of data/applications on the Web supporting the various levels of management.

- **Rationale for Metric:**

  - **Usefulness:** To track progress in our new developmental efforts. The Personnel Systems Team as well as the Financial Systems Team will begin discussions with customers and prepare a functional overview of the Personnel Systems and Financial Data Warehouse enhancements required. They will then begin modifications to existing Web applications where required.

  - **Expected Result:** Quarterly surveys of BUMs/Directors/Commanders/ Mission System Owners/Command Group show high degree of satisfaction with CITD's developmental activities interface.

  - **Metric Target:** Implementation 1Q00; Reevaluation 3Q00.

- **Metric Goal 1. (A)(3):** Integrate data from the Web applications developed into the SMR from this DW hierarchy of data/applications.

- **Rationale for Metric:**

  - **Usefulness:** When we begin doing this, this metric will show us progress in incorporating metrics electronically into the SMR.

  - **Expected Result:** More data, available on demand, at various management levels, allows more knowledgeable decisions to be made more rapidly.

  - **Metric Target:** Implementation 3Q00; Reevaluation 1Q01.

- **Metric Goal 1. (A)(4):** MS Exchange. Transition all e-mail users to MS Exchange by 31 Dec 97 (teams – e-mail transition).

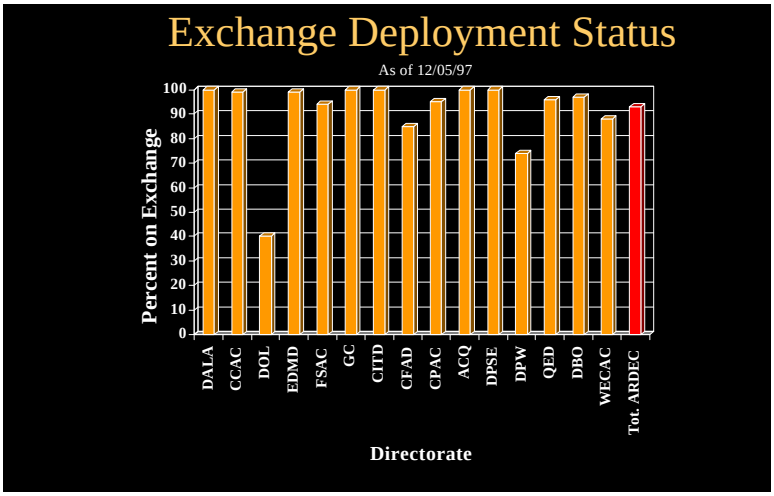

Figure 9. Exchange Deployment Status

- **Rationale for Metric:**
  - **Usefulness:** This (stretch) goal will be to accomplish it in approximately one year. The metric helps us keep on track or know what the problems are.
  - **Expected Result:** High customer satisfaction rating for e-mail.
  - **Metric Target:** Implementation 31Dec97; Reevaluation 1Q/FY99.

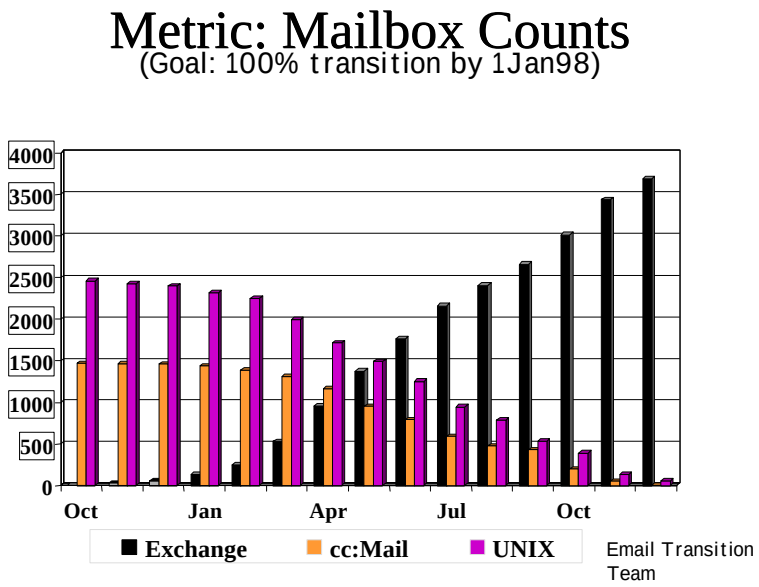

Figure 10. MS Exchange Metrics.

These metrics were for the Microsoft Exchange Transition team that was responsible for replacing all other forms of email with the Exchange System.

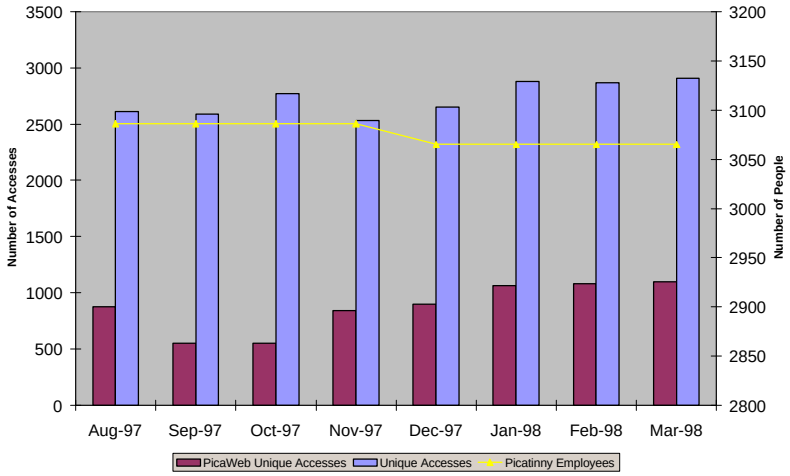

Figure 11. Web Server Usage Comparisons

- **Metric Goal 1. (A)(5):** Field Web workflow version of AMAS by 1 Oct 98 (teams – wf).

- **Rationale for Metric:**

  - **Usefulness:** This metric shows us increased usage of the Web over the course of application migration to the Web. It will additionally reflect increases as we put AMAS on the Web.

  - **Expected Result:** Expect large increases in Web use (possibly doubled) when the Credit Card process of AMAS is Web-enabled.

  - **Metric Target:** Implementation 1Q99 Re-evaluation 3Q99.

(B) Satisfy Group Infrastructure Needs.

- **Sub-Strategy:** Implement and maintain high level of e-mail timeliness; establish high standards for repair of customer equipment and software; provide high bandwidth networking to each building and desktop.

- **Metric Goal 1. (B)(1):** See Metric Goal 1. (A)(4).

- **Metric Goal 1. (B)(2):** Resolve 80% of all PC service requests remotely in two hours (teams – field support).

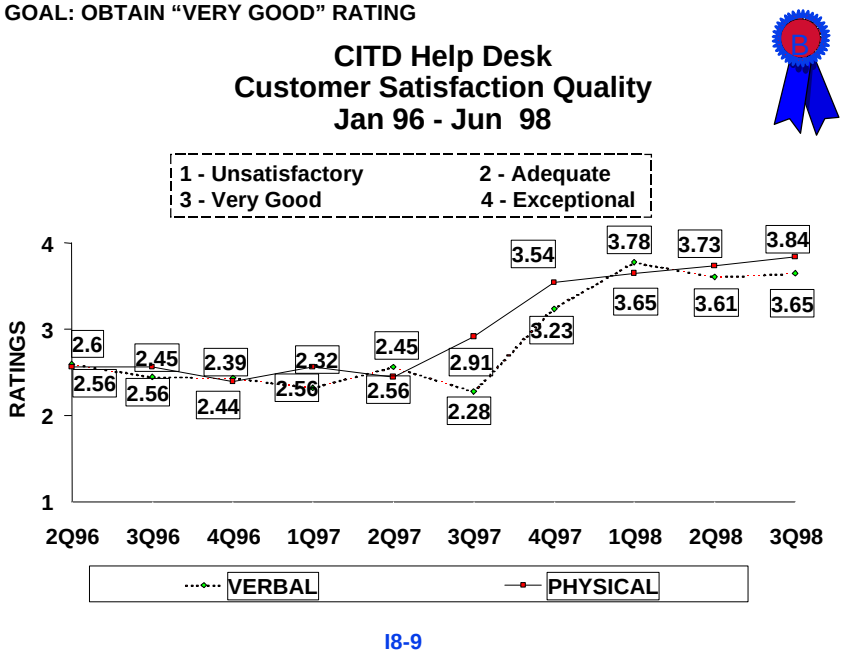

Figure 12. HelpDesk/Field Support Customer Ratings

- **Rationale for Metric:**
  - **Usefulness:** Customers need rapid response from our help desk/field support team in resolving their problems. This metric needs to show us how we're doing to satisfy the customers' demands.
  - **Expected Result:** High customer satisfaction rating for help desk/field support.
  - **Metric Target:** Current – Ratings of three (out of five) or better.

    By 1Q00 - Ratings of 3.8 or better

- **Metric Goal 1. (B)(3):** (AP2-PG#7) Deliver 100 mbps bandwidth service to all major buildings upon demand, at 20% below competitive rates (teams – net mgmt).
- **Metric Goal 1. (B)(4):** (AP2-PG#8) Deliver 128 Kbps bandwidth service to all desktops upon demand at 50% below competitive rates (team – net mgmt).
- **Rationale for Both Metrics:**
  - **Usefulness:** We need to avoid digital data competition on the network that slows down receipt of information and the pace of business. The metric needs to show us how the lower speed equipment and lines decrease while the ATM technology increases.
  - **Expected Result:** High customer satisfaction rating for networking.
  - **Metric Target:** 1500 ATM connections by 1Q99
    By 1Q00 have 3000 ATM connections.

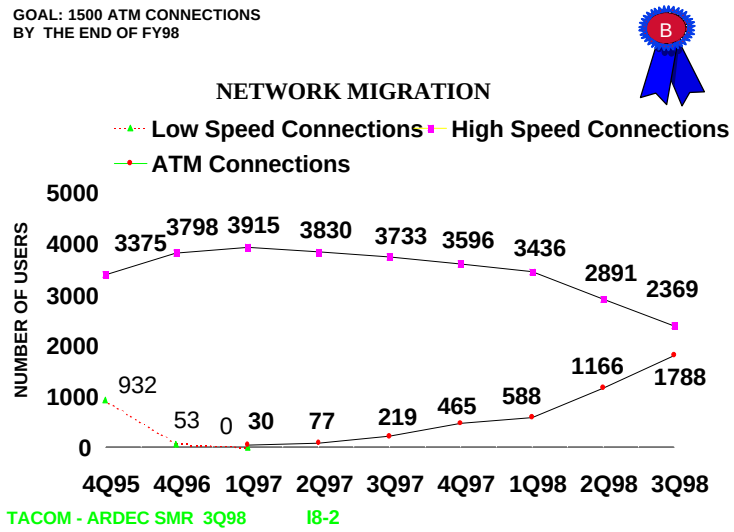

Figure 13. ATM Deployment

- **Metric Goal 1. (B)(6):** Develop common scheme for measuring customer satisfaction of all CITD services by 30 Sep 97 (teams – qsa).

- **Rationale for Metric:**

  - **Usefulness:** To better capture how CITD is doing in satisfying customers there needs to be an integrated technique among all the teams. Customer confusion needs to be reduced to get more accurate assessments.

  - **Expected Result:** High customer satisfaction rating for email, networking, field support, data warehousing, office software, and workflow applications; High ratings by internal and external customers in meeting our commitments.

  - **Metric Target:** By 1Q98 consolidated results; By 1Q99 and integrated system.

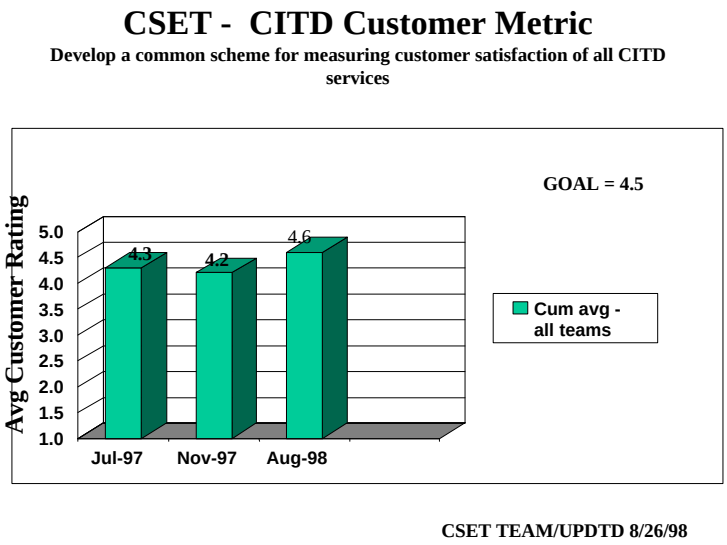

Figure 14. CITD Customer Survey Results

(C) Enable Users to Interwork.

- **Sub-Strategy:** In addition to satisfying Group Infrastructure needs, and fielding a workflow application on the Web, provide a software Office Suite for under $10 per user per month

- **Metric Goal 1. (C)(2):** See Metric Goal 1. (A)(4).

- **Metric Goal 1. (C)(3):** See Metric Goal 1. (B)(3).

- **Metric Goal 1. (C)(4):** See Metric Goal 1. (B)(4).

- **Metric Goal 1. (C)(5):** See Metric Goal 1. (B)(5).

- **Metric Goal 1. (C)(6):** Provide standard software Office Suite (mail, browser, word processor, spreadsheet, presentation graphics, data base) at less than $10/user/month (teams – mpsa, slc).

- **Rationale for Metric:**

  - **Usefulness:** To get ARDEC employees to successfully interface electronically, they need a suite of software applications that are compatible and common to one another. In addition, the suite needs to be affordable.

  - **Expected Result:** The pace of business will increase with employees sending each other various attachments in email that are read/modified and responded to.

  - **Metric Target:** By 1Q98, cost will be $10; By 1Q00, cost will be $8.

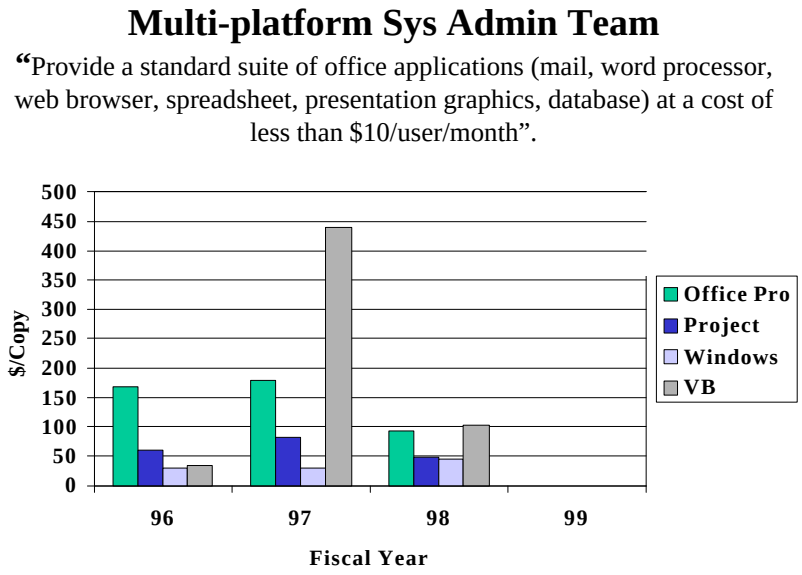

Figure 15. Cost of COTS

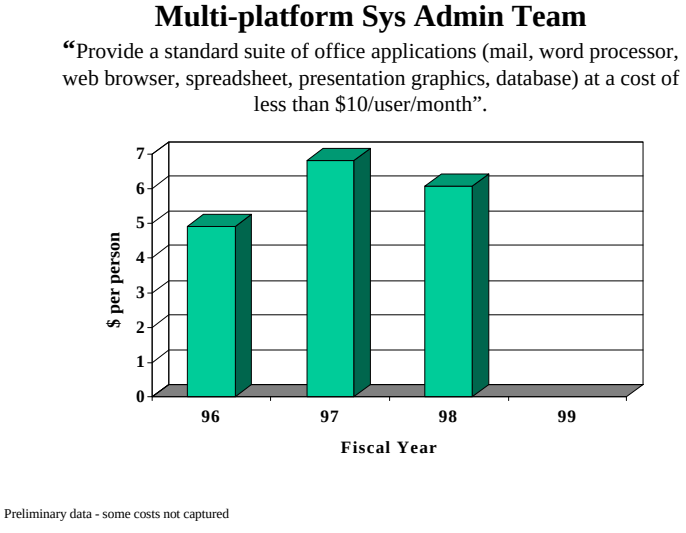

Figure 16. Cost of Office Suite

- **Metric Goal 1. (C)(7):** See Metric Goal 1. (A)(5).

(D) Make Information Support Our Business.

- **Sub-Strategy:** Besides surveying customers to assess whether we are supplying information services they need, get the Business Unit Managers (BUMs) to increase their usage of WEB applications by at least 20% per month.

- **Metric Goal 1. (D)(1):** See Metric Goal 1. (B)(6).

- **Metric Goal 1. (D)(2):** Increase BUM usage of the Web by 20% per month

- **Rationale for Metric:**

- **Usefulness:** The BUMs manage ARDEC's business. Getting them to increase use of electronic information measures our success in modeling corporate information around business needs.

- **Expected Result:** Progressive growth as the Web applications are widely deployed.

- **Metric Target:** 300 accesses per month by 1Q98; 1000access per month by 1Q99.

(E) Protect Mission Critical Data.

- **Sub-Strategy:** Besides providing information protection through our network and firewall, get hardware and systems to be Y2K Compliant by 1Q99.

- **Metric Goal 1. (E)(1):** All local software applications are Y2K compliant by 1Q99 (teams – Y2K; pers.fins, dw, wf, acq spt).

Assure all local software applications are Y2K-compliant by 1 Oct 99

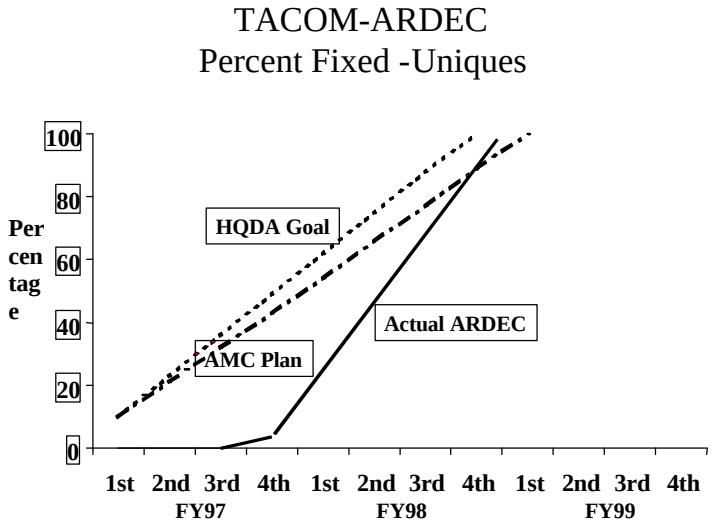

Figure 17. Y2K Compliancy

- **Rationale for Metric:**

- **Usefulness:** Unless systems are Y2K compliant by FY99, we won't be able to run a live compliancy inteface test with other sites, and our countries' defense could be at stake.
- **Expected Result:** Meet higher command milestones for achieving Y2K compliance; timely meeting of milestones assigned.
- **Metric Target:** Meet 1Q99 Goals; Run live test during FY99; Compliant by 1Q/FY00.

- **Metric Goal 1. (E)(3):** Assure all PCs are Y2K compliant by 1 Oct 98 (teams – Y2K, filed spt, dw).

- **Rationale for Metric:**
  - **Usefulness:** Y2K compliancy is a milestone that MUST BE met. Our metrics need to show us that we're going to make it.
  - **Expected Result:** Meet higher command milestones for achieving Y2K compliance; timely meeting of milestones assigned.
  - **Metric Target:** Meet higher headquarters milestones.

Assure every PC at Picatinny is Y2K-compliant by 1 Oct 98.

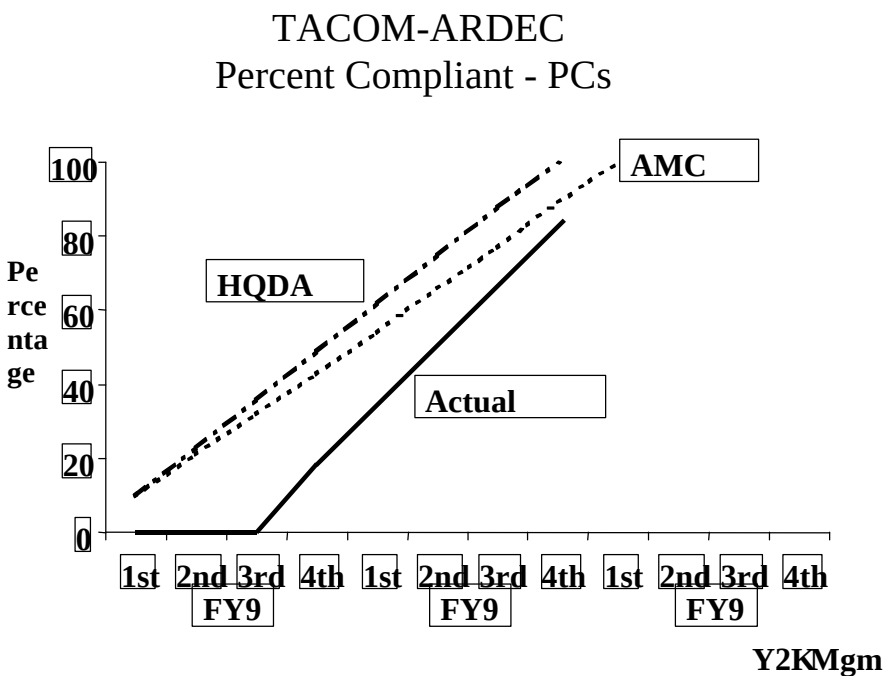

Figure 18. PC Y2K Compliance Deployment

(F) Enable Electronic Data Interchange.

- **Sub-Strategy:** In order to enable ARDEC to get the best suppliers in the shortest amount of time, with a process that requires minimum manpower, we need to develop and deploy an electronic commerce system. This system must provide ARDEC's acquisitioners a way to electronically identify their requirements and for contractors to return their bids electronically.

- **Metric Goal 1. (F)(2):** Deliver a system for electronic acquisition and commerce by Oct 98 (teams – acq spt).

- **Rationale for Metric:**

  - **Usefulness:** This project has both an internal ARDEC subsystem, called STAR, and an external subsystem, called PROCNET. There are various stages of completion. The metric needs to show us progress toward completion of both subsystems.

  - **Expected Result:** Timely meeting of milestones assigned.

  - **Metric Target:** Implementation by 1Q99; Re-evaluation in 3Q99

2. CATEGORY: BUSINESS GOALS

(A) Minimize the Cost of Doing TACOM-ARDEC's Business.

- **Sub-Strategy:** We need to accomplish our infrastructure support with minimum costs; manage all Picatinny servers with a maximum of 10 work-years of effort while maintaining high customer satisfaction; and reduce the phone bill by 10% over the next 3 years.

- **Metric Goal 2. (A)(1): Reduce MPSA Team's Server Support To 10 work-years.**

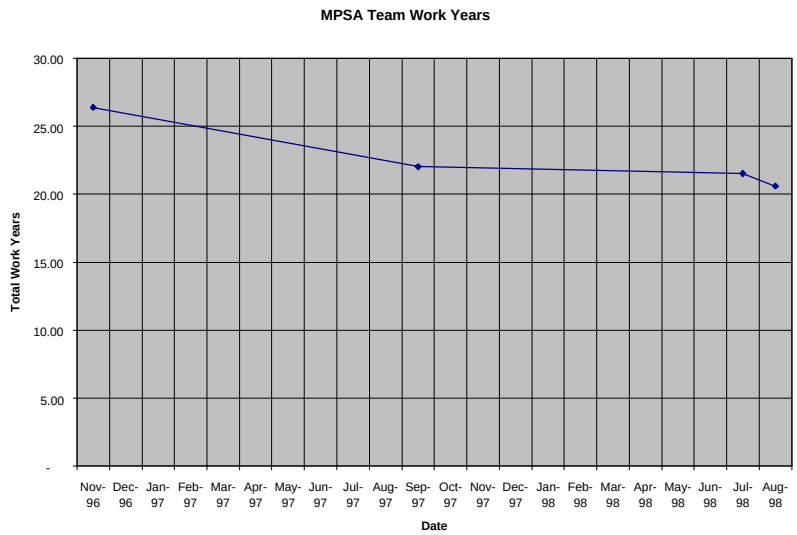

Figure 19. Work Year Reduction For Server Administration

- **Rationale for Metric:**
  - **Usefulness:** We need to make our server support more affordable. We must combine server consolidation and efficiencies to reduce the administration effort. This metric tracks progress on providing quality support.
  - **Expected Result:** Reduction to 20 servers until we get investment dollars to buy bigger servers and consolidate.
  - **Metric Target:** 20 work-years by 1Q99. 10 work-years by 1Q00.
- **Metric Goal 2. (A)(2):** See Metric Goal 1. (B)(4).
- **Metric Goal 2. (A)(3):** See Metric Goal 1. (B)(5).
- **Metric Goal 2. (A)(4):** See Metric Goal 1. (C)(6).
- **Metric Goal 2. (A)(5):** Reduce the ARDEC phone bill by 10% per year for the next 3 years (Net Mgt Team)
- **Rationale for Metric**:
  - **Usefulness:** Telephone expenses for regular service and 800 number service could make other needed resources unaffordable.
  - **Expected Result:** Steady reduction of ARDEC's expenses for telephone services. The 800 number service cost can be reduced to 0 by implementing TSACS.
  - **Metric Target:** 10% lower each year for three years.

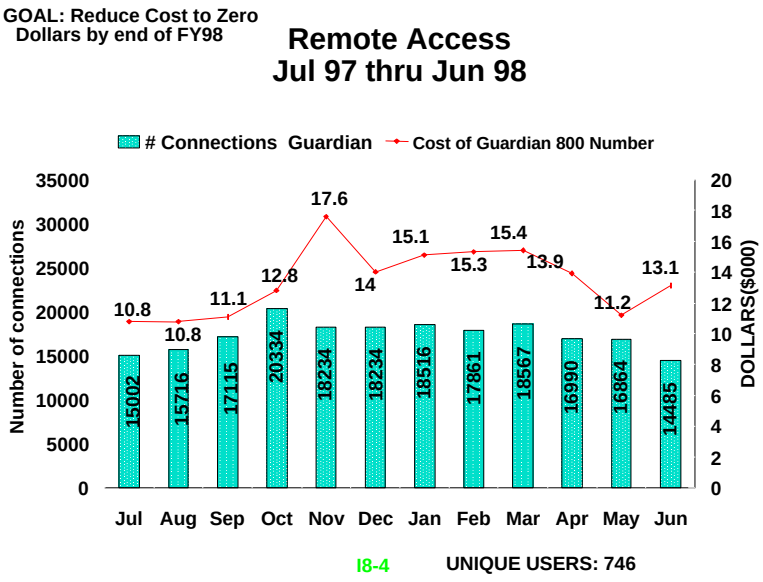

Figure 20. Number of Remote Connections & 800 Number Service Cost

- **Metric Goal 2.** (A)(6): Reduce the cost of computer-related equipment and software maintenance to below $3 million per year at ARDEC.

- **Rationale For Metric:**

  - **Usefulness: Maintenance could drive the cost of computer hardware and software up making necessary resources unaffordable.**

  - **Expected Result:** Keeping these costs within affordable limits

  - **Metric Target:** Costs remain under $3M per year

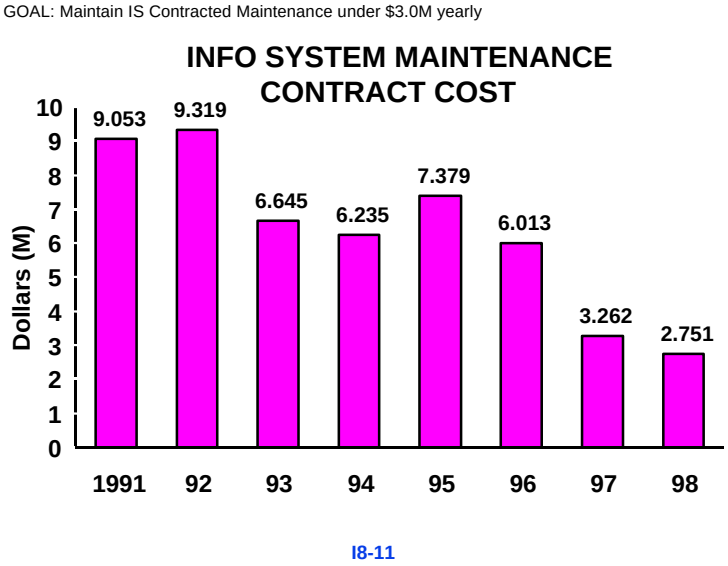

Figure 21. Hardware & Software Maintenance Budget

Reduce the ARDEC phone bill by 10% per year for the next 3 years.

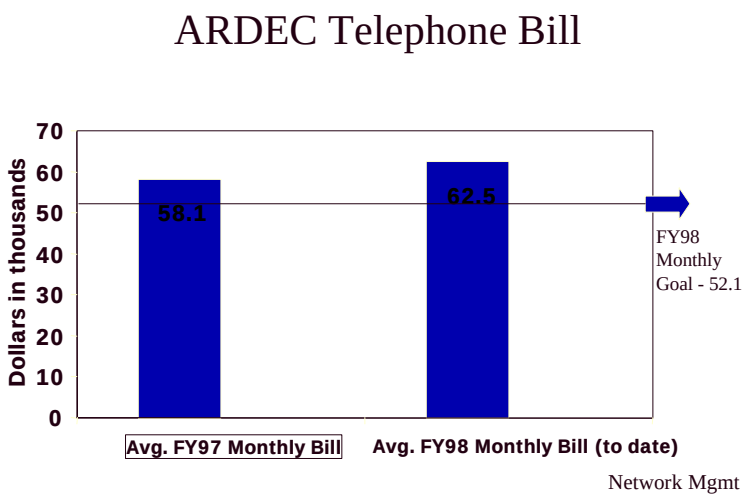

Figure 22. ARDEC Telephone Bill

(B) Deliver Quality Products and Services.

- **Sub-Strategy:** The objective is getting people to work at their best, doing the right things right the first time. Achieving this requires MANTLE management philosophy and getting customer feedback.

- **Metric Goal 2. (B)(1):**

- **Rationale for Metric:**

  - **Usefulness:** The metric is to conduct at least one reverse appraisal (RA) per year, whereby the CITD employees rate their supervisor/mentor.

  - **Expected Result:** The results are compared with previous results to determine specific areas to emphasize in managing people. Expected results are higher scores/ratings.

  - **Metric Target:** One RA each year.

- **Metric Goal 2. (B)(2):** See Metric Goal 1. (B)(6).

- **Metric Goal 2. (B)(3):** Award teams that excel (teams – ibc).

- **Rationale for Metric:**

  - **Usefulness:** A major portion of MANTLE is not to take good performance for granted and to emphasize teaming. This metric helps determine whether teams and individuals are being rewarded adequately by looking at the number of awards.

  - **Expected Result:** Higher percentage of team awards.

  - **Metric Target:** Over 50% of teams getting awards.

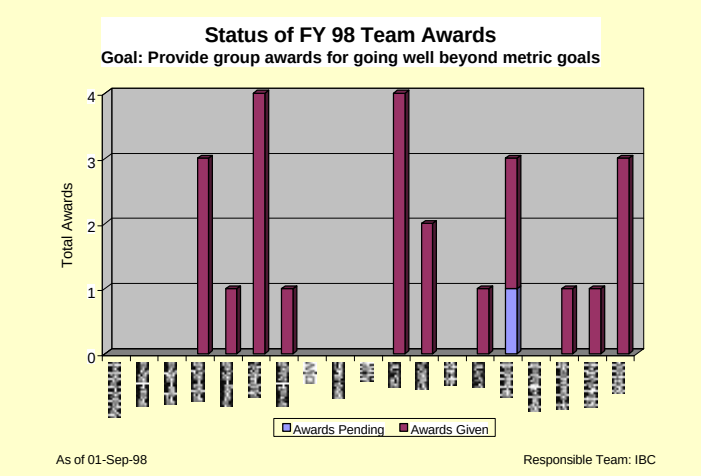

Figure 23. Team Awards

- **Metric Goal 2. (B)(4):** Create an environment that produces satisfied customers (team – qsa, ibc).

- **Rationale for Metric:**

  - **Usefulness:** There are lots of things that affect our workforce. This metric tries to identify and provide the right influences.

  - **Expected Result:** High ratings by internal and external customers

  - **Metric Target:** Provision of necessary influences by 1Q99; Re-evaluate 1Q00.

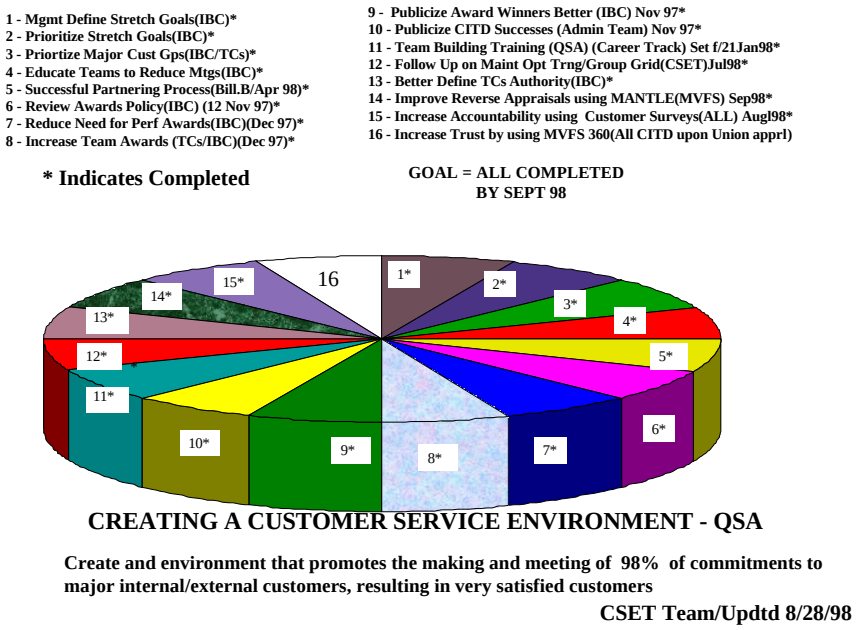

Figure 24. Creating a Total Quality Environment

(C) Empower Our Workforce.

- **Sub-Strategy:** As the CITD workforce is being reduced re-engineer the way we carry out our business. Move from a rigid organizational structure to a very flexible teaming structure. The ultimate objective is to create Self-Directed Work Teams. Mentors are assigned (vice the normal supervisors). Their people cut across projects, some projects with people the mentor "advises" and other projects with people are "advised" by another mentor. In addition, employees choose their mentor and volunteer for projects, at various percentage levels for each project. The Information Business Council ensures resources are applied in the proper amounts to various projects. Success is measured by customer satisfaction.

- **Metric Goal 2 (C)(1):** See Metric Goal 1(B)(6)

- **Metric Goal 2. (C)(2):** See Metric Goal 2(B)(4)

- **Metric Goal 2. (C)(3):** See Metric Stretch Goal 2. (B)(3).

(D) Train Workforce to Achieve Goals.

- ❖ **Sub-Strategy:** Decisions need to be made based upon knowledge. Also, we need to facilitate the use of technology to facilitate the transfer of that knowledge.

- ■ **Metric Goal 2 (D)(1):** Develop courses for CITD and the ARDEC workforce on basic automation tools and concepts.

- ■ **Rationale for Metric:**

  - ♦ **Usefulness:** We need to ensure that the workforce is not hindered by limited funds for training and by courses not meeting their specific needs. We must look at a metric that shows we are establishing courses at minimum cost.

  - ♦ **Expected Result:** More computer literate workforce

  - ♦ **Metric Target:** Strive to add one to two new training courses per year to the inventory of CITD-taught courses that are taught at least once per quarter with expenses reimbursed through customer funds.

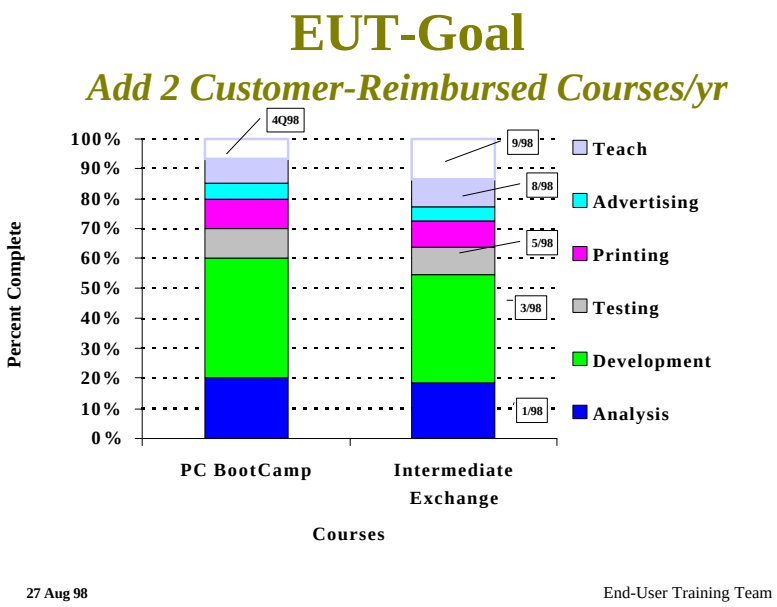

Figure 25. Course Development

- ■ **Metric Goal 2. (D)(2):** Quickly replace critical losses of personnel (teams – ibc).

- ■ **Rationale for Metric:**

  - ♦ **Usefulness:** When people resign, retire, etc. the IBC needs to determine if cross-training is required and, if so, get it done.

  - ♦ **Expected Result:** Timely meeting of milestones assigned.

  - ♦ **Metric Target:** Project critical losses and train appropriately.

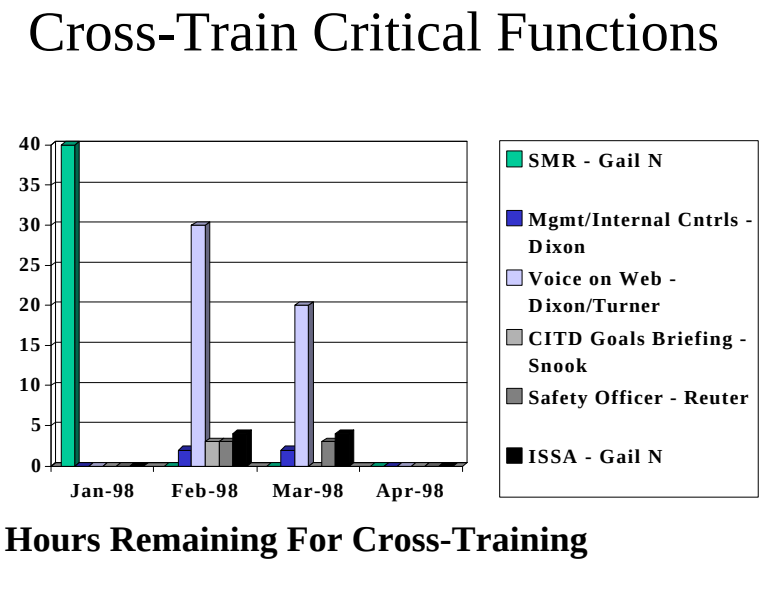

Figure 26. Replacing Critical Losses

- **Metric Goal 2. (D)(3):** Conduct six in-house training seminars per year on new technology with a high rate of customer satisfaction.
- **Rationale for Metric:**
  - **Usefulness:** CITD programmers need to keep up on latest techniques.
  - **Expected Result:** Better programs and high level of customer satisfaction
  - **Metric Target:** 6 new technology classes during FY98

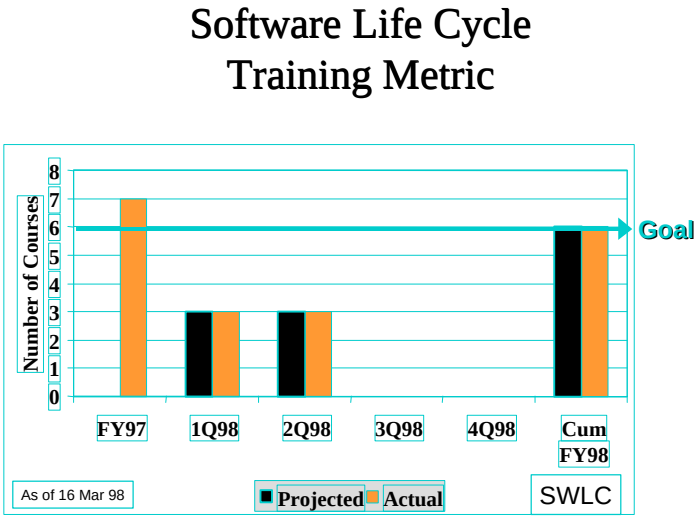

Figure 27. Technology Training

(E) Change Goals as Needed.

- ❖ **Sub-Strategy:** As technology and customer needs change CITD needs to change accordingly. Changing customer needs comes from teams partnering with customers, the Information Users Council and responses to customer surveys. Technology is the concern of our Software Life Cycle Team which trains other CITD employees.

- ■ **Metric Goal 2 (E)(1):** See Metric Goal 2 (D)(3).

- ■ **Metric Goal 2. (E)(2):** See Metric Goal 2 (B)(4).

- ■ **Metric Goal 2. (E)(3):** See Metric Goal 1 (B)(6).

IV. Quality and Improvement Strategies/Action Plans Of System Processes

Preface: *An important consideration is that all CITD employees have operational responsibilities for systems (equipment, software, or service). These systems must be maintained at a level adequate to meet customer needs. However, every employee must work to minimize the time spent on routine operational duties in order to spend more time on the following set of IS Action Plans and Goals.*

1. ACTION PLAN – DATA WAREHOUSING – Improvements Made as a Result of Quality Examiner Comments. *(Quality Examiner Comments Concerning Data Warehousing (i.e. Reliability and Consistency of Data Theme)*

A. Examiner's comment - "There is limited evidence that processes are in place throughout ARDEC to assure the reliability and consistency of data".

(1) Reliability and consistency of data is being achieved through the process of data management. The entire concept is called data warehousing. A data warehouse, simply stated, is the separation of ARDEC's operational data systems from its decision support systems. It includes a repository of information that has been built using data from various sources (including legacy systems) so that the data can be modeled and analyzed by business managers. Data in our warehouse is organized by subject, rather than by application, so that the warehouse contains the information necessary for decision support processing. The data is collected over time and used for comparisons, trends and forecasting. This data is not updated in real time, but rather refreshed from the operational systems over night when the data transfer will not adversely affect the performance of operational systems. In addition, the warehouse repository, which is distributed among several servers, is created only to be read from, not written to or altered. End users are not data entry people but rather ARDEC business managers making decisions based on the existing data.

(2) A group of IS Data Base Administrators (DBAs) manage the data warehouse and control the creation of all the data bases at ARDEC. Programmers are not allowed to create their own databases without consulting with a DBA. This individual will decide how the programmer-required database will be created -–perhaps a data mart (a subset of the data warehouse, created to make applications access to data warehouse information more efficient) is required. Perhaps a modification to an existing data mart or a unique database is called for.

(3) These DBAs, who are members of CITD's Data Warehouse (DW) Team, along with other functional area teams, such as the Financial or Personnel Team, identify proponents for maintaining the data and partner with them for commitments concerning currency. In this way, users of the warehouse are ensured of accurate, current data that is consistent among all the applications using that data. These proponents also maintain the Access Control List of users for their portion of the warehouse.

(4) The data warehouse expands as either Programmers, working with their customers, request the DBAs to access/modify data bases, or the DW team's analysis reveals that efficiencies can be attained by expanding/modifying the warehouse. For example, the team has identified reference data elements that are central to all business at ARDEC and scattered on at least a dozen databases. The goal is to eliminate redundant data stores and provide a single source of data for programmers and others. The reference elements include: Office Symbol, Cost Center Number, and Personnel Reference.

(5) The extent of the data warehousing project is envisioned as follows: 100% of Personnel and Financial Systems elements are available in the data warehouse. 100% of financial analysts and managers can use the financial data. The plan is to expand use to the ARDEC engineers & scientists. Use of the personnel portion of the data warehouse includes the CPO and some business unit managers

and supervisors. CITD is working to expand this access through use of our customer liaison demonstrating these capabilities to CITD's major customer groups. 100% of the data required by the Acquisition Center from SAACONS, the Funds Module, and AMAS are contained in the Procurement data warehouse. Acquisition Center people maintain the access list for this portion of the data warehouse.

B. Examiner's comment - "The Information Systems team is in the early stages of identifying and building a data warehouse and in deploying and training users in the use of tools to access and use the data for planning and operational management".

See the extent of data warehouse maturity above in para 1E. Training users is being accomplished by getting key people trained in the functional areas and then having them train their own people. We also have a plan of demonstrating capabilities to Business Unit Managers. To inform users, Web pages also contain information about the data warehouse.

C. Examiner's comment - "Approaches to improving access are being made selectively. There are legacy systems for which it is less clear how key requirements such as reliability, rapid access, and rapid update are being addressed, or how these types of measures may be used as early indicators of customer satisfaction."

The Data Warehouse Team is working with programmers and end users to reduce extracts from legacy systems at the mega center and use the data warehouse instead. One example of this is our work with the PRISM group.

D. Examiner's Comment - "There is apparently no formal approach for evaluating and improving the processes used to select and integrate data and information."

The process is in place but not documented or published.

E. Examiner's Comment - "Though systems for data analysis and collection are in place, the density of system usage is uneven because of newness of the system. Need to progressively phase in increased usage/information and continually verify relevance".

This is a metrics issue and the DW Team has submitted metrics to measure “hits” against the data bases – the Team wants to show that data extracts from multiple data bases go down while access to the data warehouse increases over time.

F. Examiner's Comment - "The Information Systems organization is re-engineering its processes to improve the link and services provided to customers (users) with reduced resources.

“At this time, there is not an articulated set of measures, other than customer satisfaction, for knowing if the restructuring and retraining is successful." There is now in place a number of metrics against the IBC stretch goals.

2. ACTION PLAN – PRIORITIZED GOALS. See Section III, System Strategies and Metrics to Support TACOM-ARDEC Goals.

3. ACTION PLAN – NON-CITD INFORMATION SYSTEM DEVELOPMENTS. See Section I., Overall System Strategy, Paragraph 1d, Links to Other TACOM-ARDEC Activities for discussion.

Appendix A

Specific Guidelines for Team Coordinator/Leaders

There are six leadership responsibilities of Team Coordinator/Leaders (TCLs): Fostering Team Identity and Commitment; Building Trust; Getting Everyone to Work as a Team; Working Through Conflict; Expanding Team Capabilities; and Assuming a Strategic Role.

1. Fostering Team Identity and Commitment means that there's: Loyalty between members; Willingness to go the extra mile; Strong bent toward high achievement; Supportive behavior between team members and high morale; and, Capability to make very satisfied customers.

Achieving this requires the TCLs to build a unity of purpose by developing with the team: *Vision*, *Mission* and *Objectives*. The TCL must also foster agreement from the team on team member behavior. This happens by developing:

A. Values - The things most important to the team and CITD. Trust is based upon mutual commitment to a set of values that the team develops and adopts.

B. An operating agreement includes - What is/is not acceptable for behavior/individual Contributions; Plans for managing meetings, assignments, and deadlines; Guidelines for dealing with problems and disagreements; Consequences of violations.

C. Real goals and deadlines - The who, what, and whens.

2. Building Trust means: Each member will be accepted by others; Work and credit for results will be shared equally; The commitment to do well will be shared and demonstrated; Opinions and contributions will be valued; Teammates will help each other.

Team trust starts with trust in the TCL. To build this trust the TCL must:

A. Build and maintain the self-esteem and confidence of all team members.

B. Keep the focus on the issue, the problem or specific behavior, not on individual team members.

C. Lead by example, e.g. follow-through, courtesy, fairness, etc.

D. Help the team recognize problems and take initiative to solve them.

3. Getting Everyone To Work As A Team means ensuring accountability of the team and individuals through the operating agreement, TAPES performance objectives, and facilitation skills. These skills include: Managing meetings and agendas; Brainstorming; Equalizing input; Maintaining focus; Building agreement; Handling disruptive behavior; and clarifying outcomes. Other important TCL skills are problem-solving and consensus decision-making. **** Important Note: After attempting consensus decisions without success, the TCL must make the decision for the team. They have the authority to make things happen. Also, when there are no volunteers, the TCL will assign someone. In addition, the TCL is responsible for making sure team members keep their commitments to each other and their customers based on the team goals and the "who, what, and when" taskings.***

4. Working Through Conflict means the TCL is responsible for the following functions in conflict management and resolution:

A. Containing the conflict - not suppressing it but staying within some team boundaries - trying to focus on the interests/issues not personalities.

B. Helping the team surface the roots of conflicts and resolve them constructively.

C. Capitalizing on differences - help the team to make differences a positive force for getting to the best solutions.

5. Expanding Team Capabilities means the TCL develops individual performance; Improves team skills; Builds internal leadership within the team - besides him/herself; and, Transfers responsibility to someone who will (in some realistic timeframe) eventually become TCL.

Appendix B

Specific Guidelines for Project Advisors

1. What are the responsibilities of Project Advisors (PAs)?

A. Meld the talents and strengths of individuals while overcoming their limitations and weaknesses to get the team functioning on a higher level than would be possible when dealing with individuals separately.

B. Start out by being very directive to a new team. Delegate responsibilities as the team matures and becomes more self-motivating.

C. Ensure that Team Coordinator/Leaders involve team members and the team in helping to define the mission, set goals, create the plan with realistic, achievable schedules and deadlines (i.e. Who, What, and When).

D. Ensure the Team Coordinator/Leaders involve the team members and the team in developing the score keeping/measurements and standards against which success will be measured.

E. Create a kind of camaraderie in which team members hold each other accountable.

F. Keep the teams focused on their goals.

G. Give continuous feedback to the teams on how they're doing both positive and negative.

H. Use team conflict to create growth opportunities.

I. Give the teams direct exposure to the IBC and promotes team visibility – let them present their accomplishments and problems requiring CITD executive decisions.

J. Encourage and provide opportunity for both personal and team growth through training, seminars, journals and trends.

K. Value and recognize creativity that comes from different personalities and backgrounds of team members.

L. Reward and celebrate achievements – commitments met, efforts put forth, and even "good tries" that fail as well as the victories.

M. Get satisfaction from the success of others (i.e. the teams and team members) rather than consider personal accomplishments of higher value.

N. When things go wrong, accept the responsibility and shield the team while reformulating the advising process to ensure that it does not happen again. Get the facts about what went wrong by: Asking good questions to discover the real reasons, asking for opinions, not arguing about excuses and rationalizations, bringing the focus back to solutions, goals, and action plans (with Who, What, and When)

2. When is Project Advising Important?

A. Project Advising is not an event, it is a process. It needs to be ongoing.

B. You advise teams/individuals during setbacks and problems, and when they are learning new skills.

B. You advise them when they succeed and when they fail.

D. You advise teams/employees when they are new and when they have experience beyond yours.
E. It's up to the PA to identify advising opportunities.

3. When doesn't Project Advising work? During emergency or crisis situations – that's when a benevolent dictator is needed.

4. What are the most critical short-term functions of the Project Advisor?

A. **Assess** where the team is NOW – skills, knowledge, attitude and satisfaction.

B. **Train –** determine what needs to be taught and how to do it and when.

C. **Build relationships –** spend time with the teams; but not so much that it is perceived as micro-managing or meddling; hold regular advisor/team building sessions**.**

D. **Motivate –** provide opportunities for everyone to receive acknowledgment; teach the "stars" to acknowledge the contributions of teammates.

E. **Evaluate the performance -** measured against the metric standard.

F. **Give feedback -** focused on continuous improvement.

Appendix C

THE INFORMATION BUSINESS COUNCIL CHARTER

The IBC has four fundamental roles: DEPLOYING the new organizational model; MONITORING how the organization is doing; RESOLVING issues that can't be resolved by individuals or teams; and REWARDING and RECOGNIZING successes.

1. DEPLOYMENT: IBC ensures project advisors work with teams and their coordinators to transition them to self directed work teams by making sure:

A. Team roles are established;

B. Charter is written and approved;

C. Milestones are identified;

D. Milestone resources are established;

E. Resource shortfalls / longfalls are identified.

2. MONITORING: IBC understands sufficient details about what is going on within the directorate to be able to resolve issues in an informed way.

A. Tech Exec specialist roles are firmly established.

(1) Human resources
(2) Procurement
(3) Finances
(4) Work breakdown
(5) Strategic planning

B. Tech Execs rigorously mentor each employee.

C. Project progress is monitored - who is responsible for what, when.

D. Process improvement is monitored by carefully selected metrics.

3. RESOLUTION: Issues are resolved at the lowest possible level, partnering continuously with the customer involved, proceeding 'up the chain' through individuals, within teams, across teams, the IBC, the IUC, then the ARDEC Commander.

A. Team memberships must be completely identified.

B. Team member's percentage of team participation established*.

C. IBC does a team resource credibility check.

D. IBC resolves issues for which it has sufficient information.

E. IBC commissions another team (if necessary) to resolve issue.

**Note: the team coordinator and team advisor are jointly responsible for making sure percentages of team participation are continuously updated into a directorate level database. This is so important to the ability to make resource decisions that it must be organic to everything we do and very simple to update. It may ultimately be tied to the time and attendance system, or a project management system.*

4. REWARD / RECOGNITION: Rewarding and recognizing the accomplishments of our employees is an important motivating force that, if used effectively, can have a very positive affect on all of our job satisfaction.

A. Rewards:

(1) Team level - uniform based on team performance
(2) Match personal motivators to available rewards
(3) Based on an individual's value to the team
(4) Create a self motivating / collaborative culture

B. Recognition:

(1) Publicize to higher HQ
(2) Publicize at Lead Operator Briefings
(3) Publicize with newspaper articles
(4) Quick / easy recognition of team accomplishments

Appendix D

SPECIFIC GUIDELINES FOR INFORMATION USERS COUNCIL

1. The Information Users Council held its kickoff meeting from 1300-1500 on 25 January 1996.

2. The following were in attendance representing their respective organizations:

Robert Nichols (PATD)
Sid Bernstein (AED)
Pete Vauter (PEO-FAS)
Jerry DeRogatis (AFGE)
Arnie Klein (NFFE)
Jim Steiner (CCAC)
Edger J. Hernandez (CCAC)
Walt Ryba (FSAC)
Ted Studeny (PM Paladin)
Jerry Keller (Acquisition Center)
Lynne Huron (AFGE)
Charles Mattingly (PM Crusader)
Angelo Castellano (PM Crusader)
William Cadwallender (PM Mortars)
Sid Schwartz (LSED)
Steve Langdo (PEO-FAS)
Donna Demarest (PM-SADARM)
Joseph Gormley (PM-SADARM)
Ray Pawlicki (ASCO)
Rick Wagner (PM-Mines)
Bob Dobres (RMD)
Sylvester Bryant (EDMD)
Steve Dougherty (DOIM)
Don Gulliksen (DOIM/Garrison)

It was agreed that the organizational makeup of the Council was appropriate with the exception of inviting representatives from PM Ammolog and PM Joint Lightweight 155 to the next meeting. ASCO was inadvertently omitted from the initial list, but was represented by Ray Pawlicki. The ARDEC BoD representative was absent.

3. The following membership criteria was proposed and agreed upon:

> *A high level management group that understands the business needs of their respective organizations and is empowered to commit their organization to a position regarding the addition, continuation, or elimination of any information product or service*.

If a member did not feel he/she met this criteria, they were asked to have their management consider the selection of another representative.

4. The following charter was proposed verbatim from the TACOM Executive Board charter and agreed upon:

Identify areas for information technology investment that support Picatinny objectives. Apply information technology to ensure that Picatinny gains maximum return on its technology investment funds. Recommend information system plans, requirements, and funding levels (all applicable fund sources) to the Picatinny Commanders for approval.

5. It was agreed that the Council would act as a QMB reporting to BG Boddie and MG Michitsch. It was further agreed that the QMB would empower managers and employees, charter PAT's, use TQM tools, set milestones, bound assignments, and encourage early successes. Mr. Ryba expressed the need for the DOIM to be the single architect of Picatinny information systems - designing an architecture that eliminates redundancy between systems. DOIM accepted that role.

6. DOIM resource reductions were discussed, with detailed service reduction schedules provided to each member via hardcopy. Mr. Mattingly and COL Pawlicki provided insight into many of the questions regarding funding decisions. It was agreed that little could be done to substantially change the service reductions at this point in time, but Council consensus on Picatinny information requirements would allow the DOIM to better allocate available resources and defend customer needs in the future.

7. An initial meeting frequency of every two weeks was agreed upon, with the expectation that we would
meet less frequently as workload indicated. The next meeting will be 1300-1500 on Thursday, February 8 in the B350 DOIM conference room. The DOIM was asked to provide briefings in areas recommended for Council involvement so that the process of chartering, resourcing, and tasking PAT's could begin.

8. Members of the Council toured central networking and computing facilities in the B350 area after the meeting was adjourned.

Appendix E

INFORMATION SYSTEM CUSTOMER FOCUS

1. The Successful Partnering Process:

The Five Keys for Success

1. Common Purpose
2. Joint Commitment: The New Paradigm
3. Synergism Through Communications
4. Clear, Accepted, Fulfilled Responsibilities
5. Mutual Benefits

2. Teams Develop "Who, What, When":

A. Based upon "customer-oriented goals and major customer group priorities", teams develop milestones.

B. Who, what, when;

C. Meaningful metric to measure success;

D. Reviewed by team itself and the IBC.

3. Major Customer Groups – Prioritized:

A. The Command Staff

B. The PEO and the PMs (Crusader first)

C. TACOM-ARDEC Commanders, Directors, Office Chiefs, Foreign Liaison Group;

D. The ARDEC Business Unit Managers;

E. The Partnership Council (Unions);

F. Internal Customers (CITD Employees).

4. CITD Guidelines for Great Customer Service:

Take Ownership

Customer requests can often "fall between the cracks" when no one takes ownership of the request. If you are contacted by a customer then you "own" their request until either (a) you provide a solution, or (b) there is a clear and unmistakable transfer of ownership to another employee. Such a transfer cannot take place by simply directing the customer to

someone else. You must contact the employee and obtain their acknowledgment that they are taking ownership of the request.

Make A Commitment

Always make a commitment to the customer as to when you can respond to their request. If you are unable to make a commitment, then a short-term interim commitment should be made, i.e., telling the customer when someone will get back to them to provide an actual commitment. Interim commitments are a particularly useful tool for team dispatchers, e.g., "a technical specialist will get back to you within 15 minutes to establish a time for responding to your request".

Keep The Customer Informed

If you are unable to meet either a commitment or an interim commitment, it is imperative that you contact the customer, inform them of the delay, and establish a new commitment. Most customers will not mind a slippage if they are kept informed. Also, to maintain credibility, it's important to make a special effort to meet the second commitment.

Provide Accurate Information

Be truthful, honest and up-front with your customers. If you don't know something, then it's better to make an interim commitment rather than provide a misleading or inaccurate answer.

5. Customer Feedback Process:

A. Teams work with customers to determine rating criteria – become “team-unique” criteria.

B. Teams pick customers to be surveyed.

C. Team-unique and generic criteria are put into Multi-view Feedback System (MVFS).

D. Feedback is to the team as a whole – Team Leader Coordinators review feedback with team.

E. QSA Team assures remediation plans done for dissatisfied customers – also incorporates corrections into IS process if appropriate.

F. Metric created by generating organizational average.